UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL EXPOSURE RESEARCH LABORATORY
HUMAN EXPOSURE & ATMOSPHERIC SCIENCES DIVISION (MD-46)
Research Triangle Park, NC 27711
919-541-2622

Office of
Research and Development

LIST OF DESIGNATED REFERENCE AND EQUIVALENT METHODS

Issue Date: **September 15, 1998**

These methods for measuring ambient concentrations of specified air pollutants have been designated as "reference methods" or "equivalent methods" in accordance with Title 40, Part 53 of the Code of Federal Regulations (40 CFR Part 53). Subject to any limitations (e.g., operating range) specified in the applicable designation, each method is acceptable for use in state or local air quality surveillance systems under 40 CFR Part 58 unless the applicable designation is subsequently canceled. Automated methods are acceptable for use at shelter temperatures between 20°C and 30°C and line voltages between 105 and 125 volts unless wider limits are specified in the method description.

Prospective users of the methods listed should note (1) that each method must be used in strict accordance with its associated operation or instruction manual and with applicable quality assurance procedures, and (2) that modification of a method by its vendor or user may cause the pertinent designation to be inapplicable to the method as modified. (See Section 2.8 of Appendix C, 40 CFR Part 58 for approval of modifications to any of these methods by users.)

Further information concerning particular designations may be found in the *Federal Register* notice cited for each method or by writing to the National Exposure Research Laboratory, Human Exposure and Atmospheric Sciences Division (MD-46), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. Technical information concerning the methods should be obtained by contacting the source listed for each method. Source addresses are listed at the end of the listing of methods, except for the addresses for lead method sources, which are given with the method. New analyzers or PM_{10} samplers sold as reference or equivalent methods must carry a label or sticker identifying them as designated methods. For analyzers or PM_{10} samplers sold prior to the designation of a method with the same or similar model number, the model number does not necessarily identify an analyzer or sampler as a designated method. Consult the manufacturer or seller to determine if a previously sold analyzer or sampler can be considered a designated method or if it can be upgraded to designation status. Analyzer users who experience operational or other difficulties with a designated analyzer or sampler and are unable to resolve the problem directly with the instrument manufacturer may contact EPA (preferably in writing) at the above address for assistance.

This list will be revised as necessary to reflect any new designations or any cancellation of a designation currently in effect. The most current revision of the list will be available for inspection at EPA's Regional Offices, and copies may be obtained by writing to the National Exposure Research Laboratory at the address specified above.

Designations since August 1997

DKK Corporation Model GFS-32 UV Fluorescent SO_2 Analyzer
Horiba Instruments, Inc. Model APSA-360/APSA-360ACE Ambient SO_2 Monitor
BGI Inc. Model PQ200/PQ200A $PM_{2.5}$ Ambient Fine Particle Sampler
Rupprecht & Patashnick, Inc. Partisol®-FRM Model 2000 PM-2.5 Air Sampler
Rupprecht & Patashnick, Inc. Partisol®-Plus Model 2025 PM-2.5 Sequential Air Sampler
Graseby Andersen Model RAAS2.5-100 $PM_{2.5}$ Ambient Air Sampler
Graseby Andersen Model RAAS2.5-300 $PM_{2.5}$ Sequential Ambient Air Sampler
Advanced Pollution Instrumentation, Inc. Model 400A Ozone Analyzer
DKK Corporation Model GLN-114E Nitrogen Oxides Analyzer
Met One Instruments, Inc. Models BAM1020, GBAM1020, BAM1020-1, GBAM1020-1 PM_{10} Beta Attenuation Monitors

CARBON MONOXIDE

Advanced Pollution Instrumentation, Inc. Model 300 CO Analyzer *Automated Reference Method:* **RFCA-1093-093**

"Advanced Pollution Instrumentation, Inc. Model 300 Gas Filter Correlation Carbon Monoxide Analyzer," operated on any full scale range between 0-10 ppm and 0-50 ppm, at any temperature in the range of 15°C to 35°C, with the dynamic zero and span adjustment set to *Off*, with a 5-micron TFE filter element installed in the filter assembly, and with or without any of the following options: [2] Internal Zero/Span (IZS); Rack Mount With Slides; Zero/Span Valves; RS-232 With Status Outputs.

[*Federal Register:* Vol. 58, page 58166, 10/29/93]

Beckman Model 866 CO Monitoring System *Automated Reference Method:* **RFCA-0876-012**

"Beckman Model 866 Ambient CO Monitoring System," consisting of the following components: Pump/Sample-Handling Module; Gas Control Panel; Model 865-17 Analyzer Unit; Automatic Zero/Span Standardizer; operated with a 0-50 ppm range, a 13 second electronic response time, with or without any of the following options: Current Output Feature; Bench Mounting Kit; Linearizer Circuit.

[*Federal Register:* Vol. 41, page 36245, 08/27/76]

Bendix/Combustion Engineering Model 8501-5CA CO Analyzer *Automated Reference Method:* **RFCA-0276-008**

"Bendix or Combustion Engineering Model 8501-5CA Infrared CO Analyzer", operated on the 0-50 ppm range and with a time constant setting between 5 and 16 seconds, with or without any of the following options: Rack Mounting With Chassis Slides; Rack Mounting Without Chassis Slides; External Sample Pump. [*Federal Register:* Vol. 41, page 7450, 02/18/76]

Dasibi Model 3003 CO Analyzer *Automated Reference Method:* **RFCA-0381-051**

"Dasibi Model 3003 Gas Filter Correlation Dasibi Environmental CO Analyzer," operated on the 0-50 ppm range, with a sample particulate filter installed on the sample inlet line, with or without any of the following options:

3-001 Rack Mount
3-002 Remote Zero and Span
3-003 BCD Digital Output
3-004 4-20 Milliamp Output
3-007 Zero/Span Module Panel

[*Federal Register:* Vol. 46, page 20773, 04/07/81]

Dasibi Model 3008 CO Analyzer *Automated Reference Method:* **RFCA-0488-067**

"Dasibi Model 3008 Gas Filter Correlation CO Analyzer," operated on the 0-50 ppm range, with a time constant setting of 60 seconds, a particulate filter installed in the analyzer sample inlet line, with or without use of the auto zero or auto zero/span feature, and with or without any of the following options: N-0056-A RS-232-C Interface; S-0132-A Rack Mounting Slides; Z-0176-S Rack Mounting Brackets.

[*Federal Register:* Vol. 53, page 12073, 04/12/88]

Environnement S.A. Model CO11M CO Analyzer *Automated Reference Method:* **RFCA-0995-108**

"Environnement S.A. Model CO11M Ambient Carbon Monoxide Analyzer," operated on a full scale range of 0 - 50 ppm, at any temperature in the range of 15 °C to 35 °C, with a 5-micron PTFE sample particulate filter, with the following software settings: Automatic response time ON; Minimum response time set to 40 seconds (RT 13); Automatic ZERO-REF cycle programmed every 24 hours; and with or without any of the following options: [2] RS232-422 Serial Interface; Internal Printer.

[*Federal Register*: Vol. 60, page 54684, 10/25/95]

Horiba Models AQM-10, AQM-11, and AQM12 CO Monitoring Systems *Automated Reference Method:* **RFCA-1278-033**

"Horiba Models AQM-10, AQM-11, and AQM12 Ambient CO Monitoring Systems," operated on the 0-50 ppm range, with a response time setting of 15.5 seconds, with or without any of the following options: AIC-101 Automatic Indication Corrector;VIT-3 Non-Isolated Current Output; ISO-2 And DCS-3 Isolated Current Output. [*Federal Register:* Vol. 43, page 58429, 12/14/78]

Horiba Model APMA-300E CO Monitoring System *Automated Reference Method:* **RFCA-1180-048**

"Horiba Model APMA-300E Ambient Carbon Monoxide Monitoring System," operated on the 0-20 ppm[1], the 0-50 ppm, or the 0-100 ppm range with a time constant switch setting of No. 5. The monitoring system may be operated at temperatures between 10°C and 40°C. (This method was originally designated as "Horiba Model APMA 300E/300SE Ambient Carbon Monoxide Monitoring System".)

[*Federal Register:* Vol. 45, page 72774, 11/03/80]

Horiba Model APMA-360 CO Monitor *Automated Reference Method:* **RFCA-0895-106**

"Horiba Instruments Incorporated, Model APMA-360 Ambient Carbon Monoxide Monitor," operated on the 0-50 ppm range, with the Line Setting set to "MEASURE", with the Analog Output set to "MOMENTARY VALUE", and with or without the following options:[2] 1) Rack Mounting Plate and Side Rails 2) RS-232 Com Port.

[*Federal Register:* Vol. 60, page 39382, 08/02/95]

MASS-CO, Model 1 CO Analyzer *Automated Reference Method:* **RFCA-1280-050**

"MASS-CO, Model 1 Carbon Monoxide Analyzer," operated on a range of 0-50 ppm, with automatic zero and span adjustments at time intervals not to exceed 4 hours, with or with out the 100 millivolt and 5 volt output options. The method consists of the following components: (1) Infra-2 (Uras 2) Infrared Analyzer Model 5611-200-35, (2) Automatic Calibrator Model 5869-111, (3) Electric Gas Cooler Model 7865-222 or equivalent with prehumidifier, (4) Diaphragm Pump Model 5861-214 or equivalent, (5) Membrane Filter Model 5862-111 or equivalent, (6) Flow Meter Model SK 1171-U or equivalent, (7) Recorder Model Mini Comp DN 1/192 or equivalent. NOTE: This method is not now commercially available.

[*Federal Register:* Vol. 45, page 81650, 12/11/80]

Monitor Labs Model 8310 CO Analyzer *Automated Reference Method:* **RFCA-0979-041**

"Monitor Labs Model 8310 CO Analyzer," operated on the 0-50 ppm range, with a sample inlet filter, with or without any of the following options:

02A Zero/Span Valves	04B Pump (50Hz)	07A Zero/Span Valve Power Supply
03A Floor Stand	05A CO Regulator	08A Calibration Valves
04A Pump (60 Hz)	06A CO Cylinder	9A, B, C, D Input Power Transformer

[*Federal Register:* Vol. 44, page 54545, 09/20/79 and Vol. 45, page 2700, 01/14/80]

Monitor Labs/Lear Siegler Model 8830 CO Analyzer *Automated Reference Method:* **RFCA-0388-066**

"Monitor Labs or Lear Siegler Model 8830 CO Analyzer," operated on the 0-50 ppm range, with a five micron Teflon filter element installed in the rear-panel filter assembly, with or without any of the following options: 2 - Zero/Span Valve Assembly; 3 - Rack Assembly; 4 - Slide Assembly; 7 - 230 VAC, 50/60 Hz. [*Federal Register:* Vol. 53, page 7233, 03/07/88]

Monitor Labs/Lear Siegler Model ML9830, *Automated Reference Method:* **RFCA-0992-088**
Monitor Labs Model ML9830B, or Wedding & Associates Model 1020 CO Analyzers

"Lear Siegler Measurement Controls Corporation or Monitor Labs Model ML9830, Monitor Labs Model ML9830B, or Wedding & Associates, Inc. Model 1020 Carbon Monoxide Analyzer," operated on any full scale range between 0-5.0 ppm[1] and 0-100 ppm, at any temperature in the range of 15°C to 35°C, with the service switch on the secondary panel set to the *In* position, with the following menu choices selected: Range: *5.0 ppm* to *100.0* ppm; Over-ranging: *Enabled* or *Disabled;* Background: *Not Disabled*; Calibration: *Manual* or *Timed*; Diagnostic Mode: *Operate*; Filter Type: *Kalman*; Pres/Temp/Flow Comp: *On*; Span Comp: *Disabled*; and as follows: **Model ML9830:** with a five-micron Teflon® filter element installed internally, with the 50-pin I/O board installed on the rear panel configured at any of the following output range settings: Voltage, 0.1 V, 1 V, 5 V, 10 V; Current, 0-20 mA, 2-20 mA and 4-20 mA; and with or without any of the following options: Valve Assembly for External Zero/Span (EZS); Valve Assembly for Internal Zero/Span (IZS); Rack Mount Assembly; Internal Floppy Disk Drive. **Models ML9830B and 1020**: with either a vendor-supplied or equivalent user-supplied five micron Teflon® filter and exhaust pump, and with or without any of the following options: Valve Assembly for External Zero/Span (EZS); 50-pin I/O board; Rack Mount Assembly; High Pressure Span Valve.

[*Federal Register:* Vol. 57, page 44565, 09/28/92]

MSA/LIRA Model 202S CO Analyzer System *Automated Reference Method:* **RFCA-0177-018**

"LIRA Model 202S Air Quality Carbon Monoxide Analyzer System," consisting of a LIRA Model 202S optical bench (P/N 459839), a regenerative dryer (P/N 464084), and rack-mounted sampling system; operated on a 0-50 ppm range, with the slow response amplifier, with or without any of the following options: Remote Meter; Remote Zero And Span Controls; 0-1, 5, 20, Or 50 mA Output; 1-5, 4-20, Or 10-50 mA Output; 0-10 Or 100 mV Output; 0-1, 5, Or 10 Volt Output.

[*Federal Register:* Vol. 42, page 5748, 01/31/77]

Thermo Electron/Thermo Environmental Instruments Models 48, 48C *Automated Reference Method:* **RFCA-0981-054**

"Thermo Electron or Thermo Environmental Instruments, Inc. Model 48 Gas Filter Correlation Ambient CO Analyzer," operated on the 0-50 ppm range, with a time constant setting of 30 seconds, with or without any of the following options:

48-001	Teflon Particulate Filter	48-010 Internal Zero Air Package
48-002	19 Inch Rack Mount	48-488 GPIB (General Purpose Interface Bus) EEEE-488
48-003	Internal Zero/Span Valves with Remote Activation	

"Thermo Electron or Thermo Environmental Instruments, Inc. Model 48C Gas Filter Correlation Ambient CO Analyzer," operated on any measurement range between 0-1 ppm[1] and 0-100 ppm, with any time average setting from 10 to 300 seconds, with temperature and/or pressure compensation on or off, operated at temperatures between 20 °C and 30 °C, with or without any of the following options:[2]

100	Teflon particulate filter	410	Internal Zero Air Scrubber
200	Carrying Handle	610	4-20 mA current output
210	Rack mounts	720	RS-232 Interface
320	Internal Zero/Span and Sample/Calibration Solenoid Valves	770	RS-485 Interface
330	Internal Zero/Span and Sample/Calibration Solenoid Valves with Remote I/O Activation		

[*Federal Register:* Vol. 46, page 47002, 09/23/81]

NOTES

[1] Users should be aware that designation of this analyzer for operation on ranges less than the range specified in the performance specifications for this analyzer (40 CFR 53, Subpart B) is based on meeting the same absolute performance specifications required for the specified range. Thus, designation of these lower ranges does not imply commensurably better performance than that obtained on the specified range.

[2] This analyzer is approved for use, with proper factory configuration, on either 50 or 60 Hertz line frequency and nominal power line voltages of 115 Vac and 220 Vac.

Sources or Contacts for Designated Reference and Equivalent Methods

ABB Process Analytics
P.O. Box 831
Lewisburg, WV 24901
(304) 647-4358

Advanced Pollution
Instrumentation, Inc.
6565 Nancy Ridge Drive
San Diego, CA 92121-2251
(619) 657-9800

ASARCO Incorporated
3422 South 700 West
Salt Lake City, UT 84119
(801) 262-2459

Beckman Instruments, Inc.
Process Instruments Division
2500 Harbor Blvd.
Fullerton, CA 92634
(714) 871-4848

Bendix
[Refer to ABB Process Analytics]

BGI Incorporated
58 Guinan Street
Waltham, MA 02154

Columbia Scientific Industries
11950 Jollyville Road
Austin, TX 78759
(800) 531-5003

Combustion Engineering
[Refer to ABB Process Analytics]

Dasibi Environmental Corp.
506 Paula Avenue
Glendale, CA 91201
(818) 247-7601

DKK Corporation
4-13-14 Kichijoji Kitamachi,
Musashino-shi
Tokyo, 180, Japan

Environnement S.A
111, bd Robespierre
78300 Poissy, France
Instruments also available from:
Altech/Environnement U.S.A.
7206 Impala Drive
Richmond, VA 23228
(804) 262- 4447
kchaffee@altechusa.com

Environics, Inc.
69 Industrial Park Rd. E.
Tolland, CT 06084-2805
(203) 429-0077

Andersen Instruments
500 Technology Court
Smyrna, GA 30082-9211
(800) 241-6898

Graseby GMW
[Refer to Andersen Instruments]

Horiba Instruments Incorporated
17671 Armstrong Avenue
Irvine, CA 92714
(800) 446-7422

Lear Siegler
[Refer to Monitor Labs, Inc.]

Commonwealth of Massachusetts
Department of Environmental
Quality Engineering
Tewksbury, MA 01876

Met One Instruments, Inc.
1600 Washington Blvd.
Grants Pass, OR 97526

McMillan
[Refer to Columbia Scientific Industries]

Mine Safety Appliances
600 Penn Center Blvd.
Pittsburgh, PA 15235-5810
(412) 273-5101

Monitor Labs, Inc.
74 Inverness Drive
Englewood, CO 80112-5189
(800) 422-1499

Opsis AB, Furulund, Sweden
Instruments also available from:
Opsis, Inc.
146-148 Sound Beach Avenue
Old Greenwich, CT 06870
(203) 698-1810

State of Oregon
Department of Environmental Quality
Air Quality Division
811 S.W. Sixth Avenue
Portland, OR 97204

PCI Ozone Corp.
One Fairfield Crescent
West Caldwell, NJ 07006
(201) 575-7052

Phillips Electronic Instruments, Inc.
85 McKee Drive
Mahwah, NJ 07430

Rupprecht & Patashnik Co.,Inc.
25 Corporate Circle
Albany, NY 12203
(518) 452-0065

Thermo Environmental Instruments,
Inc.
8 West Forge Parkway
Franklin, MA 02038
(508) 520-0430

U.S. EPA
National Exposure Research Laboratory
Human Exposure & Atmospheric
Sciences Division
MD-46
Research Triangle Park, NC 27711
(919) 541- 2622

Wedding and Associates, Inc.
[Refer to Thermo Environmental
Instruments, Inc.]

U.S. EPA REFERENCE & EQUIVALENT METHODS FOR AMBIENT AIR

June 15, 1998

Method	Designation Number	Method Code
SO_2 Manual Methods		
Reference method (pararosaniline)	--	097
Technicon I (pararosaniline)	EQS-0775-001	097
Technicon II (pararosaniline)	EQS-0775-002	097
SO_2 Analyzers		
Advanced Pollution Instr. 100	EQSA-0990-077	077
Advanced Pollution Instr. 100A	EQSA-0495-100	100
Asarco 500	EQSA-0877-024	024
Beckman 953	EQSA-0678-029	029
Bendix 8303	EQSA-1078-030	030
Columbia Scientific Industries 5700	EQSA-0494-095	095
Dasibi 4108	EQSA-1086-061	061
DKK Corp, Model GFS-32	EQSA-0701-115	115
Environnement S.A. AF21M	EQSA-0292-084	084
Horiba Model APSA-360/APSA-360ACE	EQSA-0197-114	114
Lear Siegler AM2020	EQSA-1280-049	049
Lear Siegler SM1000	EQSA-1275-005	005
Lear Siegler or Monitor Labs ML9850, Monitor Labs ML9850B, Wedding 1040	EQSA-0193-092	092
Meloy SA185-2A	EQSA-1275-006	006
Meloy SA285E	EQSA-1078-032	032
Meloy SA700	EQSA-0580-046	046
Monitor Labs 8450	EQSA-0876-013	513
Monitor Labs or Lear Siegler 8850	EQSA-0779-039	039
Monitor Labs or Lear Siegler 8850S	EQSA-0390-075	075
Opsis AR 500, System 300 (open path)	EQSA-0495-101	101
Philips PW9700	EQSA-0876-011	511
Philips PW9755	EQSA-0676-010	010
Thermo Electron 43	EQSA-0276-009	009
Thermo Electron 43A or Thermo Environmental Instruments 43B, 43C	EQSA-0486-060	060
O_3 Analyzers		
Advanced Pollution Instr. 400/400A	EQOA-0992-087	087
Beckman 950A	RFOA-0577-020	020
Bendix 8002	RFOA-0176-007	007
Columbia Scientific Industries 2000	RFOA-0279-036	036
Dasibi 1003-AH,-PC,-RS	EQOA-0577-019	019
Dasibi 1008-AH	EQOA-0383-056	056
Environics 300	EQOA-0990-078	078
Environnement S.A. $O_3$41M	EQOA-0895-105	105
Horiba APOA-360	EQOA-0196-112	112
Lear Siegler or Monitor Labs ML9810, Monitor Labs ML9810B, Wedding 1010	EQOA-0193-091	091
McMillan 1100-1	RFOA-1076-014	514
McMillan 1100-2	RFOA-1076-015	515
McMillan 1100-3	RFOA-1076-016	016
Meloy OA325-2R	RFOA-1075-003	003
Meloy OA350-2R	RFOA-1075-004	004
Monitor Labs 8410E	RFOA-1176-017	017
Monitor Labs or Lear Siegler 8810	EQOA-0881-053	053
Opsis AR 500, System 300 (open path)	EQOA-0495-103	103
PCI Ozone Corp. LC-12	EQOA-0382-055	055
Philips PW9771	EQOA-0777-023	023
Thermo Electron or Thermo Environmental Instruments 49, 49C	EQOA-0880-047	047
CO Analyzers		
Advanced Pollution Instr. 300	RFCA-1093-093	093
Beckman 866	RFCA-0876-012	012
Bendix 8501-5CA	RFCA-0276-008	008
Dasibi 3003	RFCA-0381-051	051
Dasibi 3008	RFCA-0488-067	067
Environnement s.a. CO11M	RFCA-0995-108	108
Horiba AQM-10, -11, -12	RFCA-1278-033	033
Horiba 300E/300SE	RFCA-1180-048	048
Horiba APMA-360	RFCA-0895-106	106
Lear Siegler or Monitor Labs ML9830, Monitor Labs ML9830B, Wedding 1020	RFCA-0992-088	088
MASS - CO 1 (Massachusetts)	RFCA-1280-050	050
Monitor Labs 8310	RFCA-0979-041	041
Monitor Labs or Lear Siegler 8830	RFCA-0388-066	066
MSA 202S	RFCA-0177-018	018
Thermo Electron or Thermo Environmental Instruments 48, 48C	RFCA-0981-054	054
NO_2 Manual Methods		
Sodium arsenite (orifice)	EQN-1277-026	084
Sodium arsenite/Technicon II	EQN-1277-027	084
TGS-ANSA (orifice)	EQN-1277-028	098
NO_2 Analyzers		
Advanced Pollution Instr. 200	RFNA-0691-082	082
Advanced Pollution Instr. 200A	RFNA-1194-099	099
Beckman 952A	RFNA-0179-034	034
Bendix 8101-B	RFNA-0479-038	038
Bendix 8101-C	RFNA-0777-022	022
Columbia Scientific Indust.1600, 5600	RFNA-0977-025	025
Dasibi 2108	RFNA-1192-089	089
DKK Corp GLN-114E	RFNA-0798-121	121
Environnement S.A. AC31M	RFNA-0795-104	104
Horiba APNA-360	RFNA-0196-111	111
Lear Siegler or Monitor Labs ML9841, ML9841A, Monitor Labs ML9841B, Wedding 1030	RFNA-1292-090	090
Meloy NA530R	RFNA-1078-031	031
Monitor Labs 8440E	RFNA-0677-021	021
Monitor Labs or Lear Siegler 8840	RFNA-0280-042	042
Monitor Labs or Lear Siegler 8841	RFNA-0991-083	083
Opsis AR 500, System 300 (open path)	EQNA-0495-102	102
Philips PW9762/02	RFNA-0879-040	040
Thermo Electron or Thermo Environmental Instruments 14B/E	RFNA-0179-035	035
Thermo Electron or Thermo Environmental Instruments 14D/E	RFNA-0279-037	037
Thermo Environmental Instr. 42, 42C	RFNA-1289-074	074
Pb Manual Methods		
Reference method (hi-vol/AA spect.)	--	803
Hi-vol/AA spect. (alt. extr.)	EQL-0380-043	043
Hi-vol/Energy-disp XRF (TX ACB)	EQL-0783-058	058
Hi-vol/Energy-disp XRF (NEA)	EQL-0589-072	072
Hi-vol/Flameless AA (EMSL/EPA)	EQL-0380-044	044
Hi-vol/Flameless AA (Houston)	EQL-0895-107	107
Hi-vol/Flameless AA (Omaha)	EQL-0785-059	059
Hi-vol/ICAP spect. (Doe Run Co.)	EQL-0196-113	113
Hi-vol/ICAP spect. (EMSL/EPA)	EQL-0380-045	045
Hi-vol/ICAP spect. (Illinois)	EQL-1193-094	094
Hi-vol/ICAP spect. (Kansas)	EQL-0592-085	085
Hi-vol/ICAP spect. (Montana)	EQL-0483-057	057
Hi-vol/ICAP spect. (NE&T)	EQL-1188-069	069
Hi-vol/ICAP spect. (New Hampshire)	EQL-1290-080	080
Hi-vol/ICAP spect. (Pennsylvania)	EQL-0592-086	086
Hi-vol/ICAP spect. (Pima Co.,AZ)	EQL-0995-109	109
Hi-vol/ICAP spect. (Pima Co.,AZ)	EQL-0995-110	110
Hi-vol/ICAP spect. (Rhode Island)	EQL-0888-068	068
Hi-vol/ICAP spect. (Silver Val. Labs)	EQL-1288-070	070
Hi-vol/ICAP spect. (West Virginia)	EQL-0694-096	096
Hi-vol/WL-disp. XRF (CA A&IHL)	EQL-0581-052	052
PM_{10} Samplers		
Rupprecht & Patashnick Partisol 2000	RFPS-0694-098	098
Oregon DEQ Medium volume sampler	RFPS-0389-071	071
Sierra-Andersen/GMW 1200	RFPS-1287-063	063
Sierra-Andersen/GMW 321-B	RFPS-1287-064	064
Sierra-Andersen/GMW 321-C	RFPS-1287-065	065
Sierra-Andersen/GMW 241 Dichot.	RFPS-0789-073	073
W&A/Thermo Electron Mod 600 HVL	RFPS-1087-062	062
PM_{10} Analyzers		
Met One BAM1020, GBAM1020, BAM1020-1, GBAM1020-1	EQPM-0798-122	122
Andersen Instruments Beta FH62I-N	EQPM-0990-076	076
R & P TEOM 1400, 1400a	EQPM-1090-079	079
W&A/Thermo Electron 650 Beta Gauge	EQPM-0391-081	081
$PM_{2.5}$ Samplers		
BGI PQ200/200A	RFPS-0498-116	116
Ruppert & Patasnick Partisol-FRM 2000	RFPS-0498-117	117
Ruppert & Patasnick Partisol-Plus 2025	RFPS-0498-118	118
Graseby Andersen RAAS2.5-100	RFPS-0598-119	119
Graseby Andersen RAAS2.5-300	RFPS-0598-120	120
TSP Manual Method		
Reference method (high-volume)	--	802